

PATENT ABSTRACTS OF JAPAN

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(54) HIGH-STRENGTH POLYOLEFIN FIBER AND METHOD FOR PRODUCING THE SAME

(57)Abstract:

PROBLEM TO BE SOLVED: To provide a method for producing a high-strength polyolefin fiber without using a mixture of a solvent and a polymer for gel spinning or solvent spinning, and further to provide a method for producing the high-strength polyolefin fiber, having excellent productivity without using a very limited range of a molecular weight, a polymer density and a production condition.

SOLUTION: This method for producing the high-strength polyethylene fiber comprises melt-spinning a polymer of a raw material olefinic polymer having 60,000-600,000 weight average molecular weight, and ≤ 4.5 ratio (M_w/M_n) of the weight average molecular weight to the number average molecular weight, taking up the extruded yarn at a speed regulated so that the ratio of the spinning speed to the extrusion linear velocity will be ≥ 100 while cooling the yarn, and carrying out the first-step drawing at the temperature not higher than the crystal-dispersing temperature of the obtained fiber.

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